

AMENDMENTS TO CLAIMS

Please amend the claims as indicated in the below Listing of Claims which replaces all prior listings of claims and versions in this application.

What is claimed is:

1. (Currently Amended) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having an annular region adjacent the peripheral surface extending away from the working surface, the annular region or a portion thereof being lean in ~~eatalysing~~ catalyzing material.
2. (Currently Amended) A polycrystalline diamond abrasive element according to claim 1, wherein the polycrystalline diamond layer also has a region adjacent the working surface which is lean in ~~eatalysing~~ catalyzing material.
3. (Currently Amended) A polycrystalline diamond abrasive element according to claim 1, wherein the annular region or portion thereof lean in catalyzing material extends into the polycrystalline diamond from the peripheral surface to a depth of about 30 μ m to about 500 μ m.
4. (Original) A polycrystalline diamond abrasive element according to claim 1, wherein the annular region extends from the working surface towards the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.

5. (Currently Amended) A polycrystalline diamond abrasive element according to claim 1, wherein the polycrystalline diamond layer also has a region rich in ~~eatalysing~~ catalyzing material.
6. (Currently Amended) A polycrystalline diamond abrasive element according to claim 5, wherein the ~~eatalysing~~ catalyzing material is present as a sintering agent in the manufacture of the polycrystalline diamond layer.
7. (Currently Amended) A polycrystalline diamond abrasive element according to claim 5, wherein the region rich in ~~eatalysing~~ catalyzing material itself comprises more than one region, which differ in average particle size or chemical composition.
8. (Original) A polycrystalline diamond abrasive element according to claim 1, which is a cutting element.
9. (Original) A polycrystalline diamond abrasive element according to claim 1, wherein the polycrystalline diamond is of a high grade.
10. (Original) A polycrystalline diamond abrasive element according to claim 1, wherein the substrate is a cemented carbide substrate.
11. (New) A polycrystalline diamond abrasive element, comprising a layer of

polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having a substantially annular region lean in catalyzing material adjacent the peripheral surface commencing at a peripheral edge of the working surface and extending away from the working surface toward the interface, at least another region of the polycrystalline diamond layer being rich in catalyzing material.

12. (New) The polycrystalline diamond abrasive element according to claim 11, further including a further region lean in catalyzing material in the polycrystalline diamond layer adjacent the working surface.

13. (New) The polycrystalline diamond abrasive element according to claim 12, wherein at least one of the regions lean in catalysing material extends into the polycrystalline diamond layer from at least one of the peripheral surface and the working surface to a depth of about 30 μ m to about 500 μ m.

14. (New) The polycrystalline diamond abrasive element according to claim 11, wherein the annular region extends from the working surface toward the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.

15. (New) The polycrystalline diamond abrasive element according to claim 11, wherein the another region rich in catalysing material itself comprises a plurality of regions rich in catalyzing material, which regions rich in catalysing material differ in at least one of average particle size and chemical composition.
16. (New) The polycrystalline diamond abrasive element according to claim 11, configured as a cutting element.
17. (New) The polycrystalline diamond abrasive element according to claim 16, wherein the cutting element is secured to a drill bit.
18. (New) The polycrystalline diamond abrasive element according to claim 11, wherein the substrate is a cemented carbide substrate.
19. (New) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having a region adjacent at least a portion of the working surface lean in catalysing material and a substantially annular region lean in catalyzing material adjacent the peripheral surface, contiguous with the region and extending away from the working surface.

20. (New) The polycrystalline diamond abrasive element according to claim 19, wherein at least one of the regions lean in catalysing material extends into the polycrystalline diamond layer from at least one of the peripheral surface and the working surface to a depth of about 30 μ m to about 500 μ m.
21. (New) The polycrystalline diamond abrasive element according to claim 19, wherein the annular region extends from the working surface toward the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.
22. (New) The polycrystalline diamond abrasive element according to claim 19, further comprising another region in the polycrystalline diamond layer rich in catalyzing material.
23. (New) The polycrystalline diamond abrasive element according to claim 22, wherein the another region rich in catalysing material itself comprises a plurality of regions rich in catalyzing material, which regions rich in catalysing material differ in at least one of average particle size and chemical composition.
24. (New) The polycrystalline diamond abrasive element according to claim 19, configured as a cutting element.
25. (New) The polycrystalline diamond abrasive element according to claim 24, wherein the cutting element is secured to a drill bit.

26. (New) The polycrystalline diamond abrasive element according to claim 19, wherein the substrate is a cemented carbide substrate.